ELT 25/9/2018

Maternity Services Workforce & Capacity Report
This report, proposed work plan and bed projections outlined and addressed workforce and bed capacity issues in maternity services. The rising acuity and associated increase in length of stay is impacting on current demand for bed space across maternity facilities, in particular, Middlemore Hospital.

In addition to the midwifery workforce risk already on the organisational risk register, the bed capacity risk is now also be added.

It was noted that when ELT declined the first round of priorities in March, there was no context provided, and they did not understand the clinical issues that the service was having.

Action:
- Formally engage with the Right Foundation in relation to the birthing centre in Mangere to understand what their plans are and report back to ELT (23 October).
- Come back to ELT in three-months with an update on the action plan (11 December).
- Develop a paper for submission to ELT on the options for use of Ward 21 after it closes as a general medicine ward in November as there a number of obvious options (ie) keep it shut, keep in reserve for a winter ward next year, use for decanting for Scott Recladding, use for Women's Health.

Decision:
The Executive Leadership Team:

Received the Maternity Services Report.

Noted the link of these documents to the draft 'Women's Health and Newborn Annual Report 2017-2018'.

Noted the current and future workforce and bed requirements to enable evidence-based best practice care delivery and a need to ensure an equitable workforce that matches the population we serve.

Endorsed the completion of a three year work plan by 31 March 2019.

Support *in principle* the year one work plan (18/19) priorities, ***subject to*** finalisation of finances to be confirmed by Margaret White, noting that the resource requested is outside the current 18/19 budget and will need to be flagged on the upsize/downsize register; and including the CCDM offset. This may (dependent on the level of financial exposure) require approval by Crown Monitor.

Endorse the preparation of a business case for Maternity Services to occupy Ward 21 (30 beds) should this become available for Women's Health in January 2019.

ELT Minute 11/12/18

Proposed Women's Health Use of Ward 21

Over the last two years, the rise in acuity of pregnant women in the Counties Manukau region has left the current workforce and facility capacity unable to meet standards of care as determined by local and national guidelines. The planning for a new Women's Health building as part of the planned Galbraith replacement will take into account and address the current challenges and future demand projections however, development and completion of this project is at least five years away.

On 21 September 2018, Women's Health submitted a paper to ELT outlining these challenges in detail and sought approval of a three-year work plan to improve workforce and facility capacity. As an interim option, the work plan also proposed that Women's Health use the recently vacated Ward 21 to increase postnatal and transitional neonatal care capacity, relocating antenatal and some categories of postnatal women from current Maternity Floor to the vacated Ward 21.

This paper outlines the proposed approach and timeline, expected benefits and estimated costs noting that cost estimates will need to be confirmed prior to and during implementation.

Action:

- Take the opportunity to consider taking a different approach to the model of working on this new Ward that works for women.
- Need to factor in Allied Health resource in the additional resources that will be required.
- Refine the assumptions down to get a realistic 18/19 impact and revisit, before the end of June, what the full year impact is likely to look like.

Decision:

The Executive Leadership Team:

Received the summary of Women's Health proposed use of Ward 21, including preliminary cost estimates.

Noted the expected additional annual cost on full implementation will be $4.7m but will effectively free up 6 gynaecology beds somewhere else in the system.

Noted the cost estimates will be reviewed and updated prior to and during the phased implementation.

Noted additional capital costs are likely to be minimal and may include additional cots, small equipment and additional vital sign monitors.

Approved the use of Ward 21 by Maternity Services, with a phased implementation of the proposed utilisation of Ward 21 and the current Maternity South areas to take place from 1 April 2019.

Counties Manukau District Health Board
Executive Leadership Team
Maternity Services Workforce and Capacity Report and Plan September 2018

Recommendation

It is recommended that the Executive Leadership Team:

Receive the report, proposed work plan and bed projections that outline and address workforce and bed capacity issues in maternity services.

Note the link of these documents to the draft "Women's Health and Newborn Annual Report 2017-2018" (already circulated to ELT for sign off at its meeting on 25 September 2018). The annual report describes the population we serve and provides comprehensive information on the whole of system work we do, the quality initiatives undertaken and benchmarks our performance against the NZ Maternity Clinical Indicators.

Note the rising acuity and associated increase in length of stay impacts on current demand for bed space across our maternity facilities, in particular Middlemore Hospital.

Note that in addition to the midwifery workforce risk already on the organisational risk register the bed capacity risk will now also be added.

Note the current, and future, workforce and bed requirements to enable evidence based best practice care delivery

Endorse the completion of a three year work plan by 31 March 2019 (draft work plan attached)

Endorse the year one work plan (18/19) emphasising prioritised activities of this three year work plan

Endorse the development of a Business Case for Maternity Services to occupy the now available Ward 21 (30 beds) should this become available for Women's Health from January 2019. This would provide immediate additional capacity which is urgently required whilst working on the preferred and longer term new "Women's Health Building" project.

Approve the implementation of year one (18/19) activities and associated funding required as outlined below.

Prepared and submitted by: Nettie Knetsch (General Manager Kidz First and Women's Health), Debra Fenton (Service Manager Maternity), Sarah Tout (Clinical Director, Women's Health), Thelma Thompson (Director of Midwifery) and Carmel Ellis (General Manager Integrated Child, Youth and Maternity) with input from CM Health Maternity Strategic Forum and on behalf of Phillip Balmer and Jenny Parr.

This paper has been through HMT			Yes
Financial Implications	Yes	Finance have been consulted	Yes
HR Implications	Yes (new staff)	HR have been consulted	No

Glossary

B&A: Birthing & Assessment
CS: Caesarean Section
IOL: Induction of Labour
SAE: Serious Adverse Event
ALOS: Average length of stay
DAC: Day Assessment Clinic
MERAS: The Midwifery Employment Representation and Advisory Service
HRT: Health Round Table

Purpose

To seek endorsement of a three year work plan, approval for $ 858,717 OPEX and $48,000 CAPEX for the implementation of year one (18/19) prioritised activities and the development of a business case to utilise Ward 21 from January 2019 to address workforce and bed capacity issues in maternity services.

Executive Summary

Despite stable birth volumes, Maternity Services at CM Health have, over the last two years, seen a significant increase in workload for the midwifery, medical, nursing and allied health workforce. As outlined in the draft "Women's Health and Newborn Annual report 2017-2018", intervention rates such as Induction of Labour (IOL) and Caesarean Section (CS) have increased year on year (refer pages 32-34 of the annual report). Although our intervention rates remain lower than the Auckland region and HRT by both Australian and NZ members, the increasing demand can no longer be absorbed within current resources. The WIES over this period has increased significantly (see Figure 1), particularly at MMH (17%) mirrored by an almost 11% increase in bed days across our facilities showing the large increase in bed days in the primary birthing units in 17/18 to free up capacity at MMH (see Table 1).

Figure 1

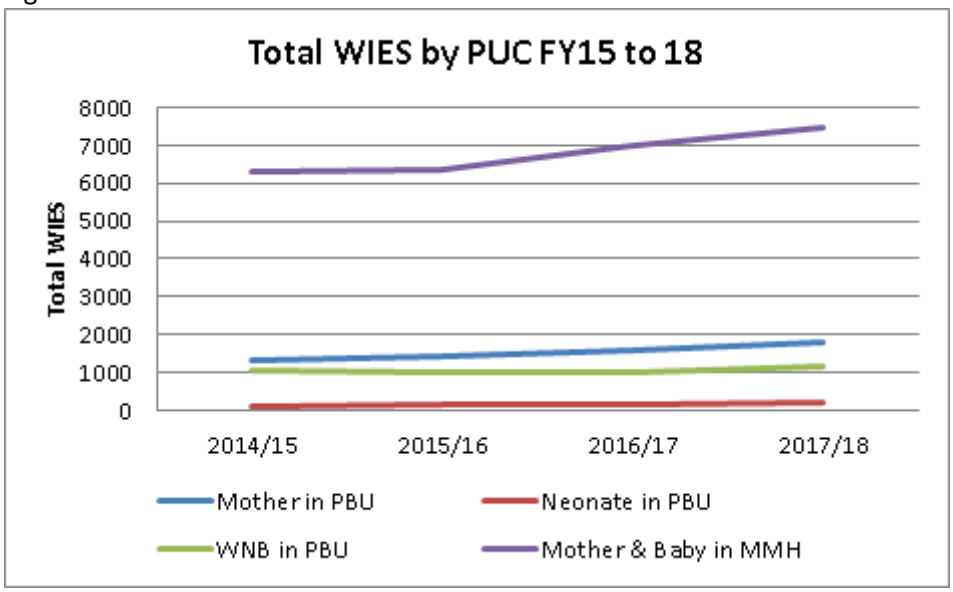


Table 1

Total Bed days	2015	2016	2017	2018
Mother in PBU (Primary Birthing Units)	6361	6059	6310	6954
Neonate in PBU	626	536	788	725
WNB in PBU	6259	6110	6304	6997
Mother & Baby in MMH	20515	20856	22242	22807

Bed days are a count at midnight

Capacity to care has become more challenging, demonstrated in a rise in serious adverse events related to care coordination, delay in treatment and insufficient bed capacity. Over the last 2 years, managers and clinical leads have been proactively managing acute bed requirements through rapid discharge and transfer processes. Ko Awatea Improvement Advisors have been working with the services since late 2016. Projects such as Living our Values have assisted greatly in a much improved workflow, patient satisfaction and staff morale on the Maternity Floor. Since late 2017 Ko Awatea has also been assisting with the B&A Improvement Project focusing on workflow processes, triaging roles and processes as well as communication between the multiple practitioners involved in the care of women. However, with a consistent rise in acuity of pregnant women in the CM Health region, the current workforce and facility capacity is unable to meet standards of care as determined by local and national guidelines.

In addition to the draft "Women's Health and Newborn Annual Report 2017-2018", the "Maternity Services Strategic Workforce and Capacity Planning Report" further outlines the current situation along with projects and initiatives introduced already to improve efficiencies within CM Health's maternity services to maximise the current workforce and capacity capabilities. Subsequently, senior managers and clinical leads have determined a work plan detailing resources required and by when, in order to meet the care requirements of the maternity population. The request is for ELT to consider, and endorse, the draft work plan and approve the implementation of year one (18/19) prioritised activities including the funding required to enable this.

Background

In the 18/19 budget round, completed in March 2018, ELT approved additional funding for 10.14 FTE midwives for Birthing and Assessment (B&A) as a priority one request. A further 5 FTE were requested as priority two and three but were declined. In addition, following medical credentialing and job sizing, an additional 1.5 FTE Senior Medical Officer (SMO) Obstetric and Gynaeocology (to be phased in over the 18/19 year) as well as a fifth Fellow and additional Registrar relieving position from December 2018 were approved. However, following the completion of two Serious and Adverse Event reports, both recommending a review of workforce and bed capacity requirements, five ELT members met with senior management and clinical leaders of CM Health Maternity Services late July 2018 to understand the rising complexities and challenges with care delivery. As a result of this meeting a request was made that a detailed report and a workplan be provided to ELT outlining how these challenges could best be adressed as permanent resourcing rather than as ad-hoc requests for additional resources or through overtime and flexible staffing.

Proposal

There is an urgent need to meet the demands of rising complexity in Maternity Services. ELT approval is necessary to support year one 18/19 activities of the attached draft work plan which include:

- The facility and funding for a Day Assessment Clinic (DAC) for semi-acute antenatal assessments with diagnostic (Ultrasound mainly) support services to immediately decant workload from B&A to a more appropriate less acute area at Manukau Surgery Centre, Level 2.
- The development and implementation of a refreshed and resourced midwifery recruitment plan which also includes a workforce pipeline for community midwifery care (either DHB employed community midwives or Midwifery Lead Maternity Carers (self-employed midwives)).
- Funding additional graduate positions where there is need to appoint above current budgeted midwifery FTE. The aim would be to support up to 40 employed graduate midwives per 15 month programme.
- Scoping additional medical support both in and after-hours to facilitate the SMO workforce to focus on high risk women and continuity of care.
- Scoping ongoing workforce requirements to enable MERAS standards and clinical guidelines to be implemented.

- Increasing senior midwife (Associate Clinical Midwife Managers) number in B&A to enable an increase in leadership and support for junior midwifery and medical staff, implement an effective triaging process and provide oversight of the IOL management.
- Funding for an additional quality improvement role to support the current Clinical Quality and Risk manager position.
- Funding for an additional 1 FTE clerical to enable non-clinical tasks to support medical and midwifery workforce including IOL and elective CS booking processes.
- Development of a Business Case for Maternity Services to occupy the freed up Ward 21 (level 5 Galbraith) from January 2019. The concept would be for the current 22 antenatal and high risk postnatal beds to be moved to ward 21 which would free up 22 beds on the Maternity Floor (level 4 Galbraith) which could then be used for the current postnatal bed shortfall (11 beds) and create a dedicated Transitional Care area of 8 beds (and cots) for neonatal graduates and their mothers. The latter also providing immediate relief for the Neonatal Unit capacity. In addition, Ward 21 could also be used for women starting their IOL and free up capacity in B&A as well as overflow from the Gynaecology Care Unit (GCU) also on level 5..
- Continuing with the promotion of primary birthing units (both DHB and privately owned) and primary birthing strategy work to optimise the utilisation for birthing at these units for low risk women.
- Working with facility master planners to further project Women's Health bed capacity for a new Women's Health building.

Provisional cost for year 1 activities:

Activity	Pro rata cost 18/19 (6 months)	Full year 19/20 cost
Day Assessment Clinic at MSC:		
Staffing:		
1 FTE Midwife	$41,000	$82,000
1 FTE Administrator	$30,000	$60,000
0.5 FTE SMO	$50,650	$101,300
0.3 FTE Sonographer	$20,000	$40,000
Equipment:		
CTG machines (CAPEX) x 2	$34,000	
WoW (CAPEX) x 1	$ 4,000	
Minor clinical equipment	$10,000	
Recruitment Plan: Development of Overseas campaign – one off cost	$10,000	
Additional Graduates Midwives: 15 FTE Over and above 18/19 budget **Some of these positions could potentially be funded from the CCDM Accord funding*	$519,067	$1,038,135
Scoping additional medical support	TBC after scoping. No costs other than the 0.5 FTE for DAC anticipated for 18/19	TBC
Scoping full implementation of MERAS Midwifery Staffing Standards	For 18/19 the additional new graduate FTE specified above will cover the immediate inpatient staffing standards. Further scoping for the community services will be undertaken for implementation in 19/20	TBC
Increase Senior Midwifery team	$117,000	$538,200

in B&A to implement dedicated Triage process, increase support for junior staff and provide oversight for induction of labour management: Increase ACMM roster to 2:2:2 (currently 2:1:1) – additional 4.6 FTE	(start with adding 2 FTE in 18/19 year to cover evening hours)	
Additional Quality Improvement coordination position (midwifery): 1 FTE (grade 2 Senior Nursing/Midwifery grade) **This position could potentially be funded from the CCDM Accord funding*	$41,000	$ 82,000
Additional Clerical position to support non- clinical tasks: 1 FTE	$30,000	$60,000
Update bed projections	No cost – working with master planning and Population Health teams	
Total FTE costs **Total CAPEX:**	**$857,717** **$48,000**	**$ 2,001,635**

Discussion

Over the last year maternity services has seen an increase in the number of SAEs where resources and capacity have contributed to the adverse outcome. Although birth volumes dropped from 8254 in 2008 to 7301 in 2014, and have been static for three years since, over the 17/18 year we have seen a 2% increase in overall birth volumes with the majority of this increase seen at Middlemore Hospital. Despite the relatively static birth volumes, WIES at MMH has gone up by 17% and bed days across all facilities have gone up by 11% over the last two years reflecting the increasing acuity.

Pressures on inpatient beds continues to grow, which is demonstrated by the increased length of stay of antenatal and postnatal women in B&A, along with the volumes transferred to the Botany or Papakura birthing units resulting in their occupancy frequently being over 100%. When analysing the ALOS for women who meet the MOH criteria for 72 hour postnatal stay, in 2017, 1170 women or babies who met these criteria, had less than 48 hour postnatal stay. In addition, in 2017, 693 women were discharged home from B&A (most went home within 8 hours). Although women may have good support systems at home and choose to go home, 58% of this cohort in 2017 had babies requiring more support.

Bed modelling by Wing Cheuk Chen & Dean Papa in 2017 has already indicated five additional beds to accommodate peak demand were forecasted to be required by 2018 based on actual bed utilisation (see Appendix 1).

An additional six beds would be required to provide a 72 hour stay for the postnatal women/babies requiring more support as well as reducing the number of women going home from B&A. It is a matter of urgency that we work with the master planning team to fast track the planning for additional postnatal beds. The additional 11 beds projected are excluding a potential regional service change for women birthing at Auckland being required to use our facilities. This could potentially require a further 4 to 6 beds (current outflow is 600 CMH domiciled women with an anticipated ALOS of 3 days as this cohort historically

has higher intervention rates).

Whilst we work through the medium and long planning for the additional postnatal capacity at MMH, in the short term to decrease the pressures on B&A there is an immediate need to increase the capacity for semi-acute outpatient activity. As in other secondary and tertiary maternity services, a DAC with access to ultrasound and laboratory would meet this need. Another short term mitigation will be to go to market and procure primary birthing services from privately owned and operated facilities.

Despite recruiting 23 -25 graduate midwives per annum over the last two years, midwifery vacancy rates remain of concern. Many of the experienced midwives are older than 50 (43.1%), and there is deficit of midwives with three and four years of experience. Recruitment of experienced or overseas midwives has declined over the last two years, with less available to recruit. The focus now should be on maximising the graduate numbers into the service. A protected budget for the midwifery new graduate programme to enable 40 new graduate placements per 15 months programme for the next 5-10 years, regardless of experienced midwifery vacancy rate, is the aggressive approach required to meet service requirements, particularly to meet future bed capacity and MERAS midwifery safe staffing standards.

The review of the acute obstetric (medical) model of care is under way for both in and after hours. With the additional FTE already funded for SMO and Registrar positions it is not anticipated that further medical staffing resources, other than the resourcing required for the DAC, will be required for the 18/19 financial year, but anticipated to be required long-term.

An increase in support staff FTE to enable efficiencies and freeing up clinical time is required. This includes clerical FTE to support elective CS and IOL processes and an additional Quality and Risk midwifery position to work with the existing Clinical Quality and Risk manager in managing complaints, adverse events and policies and guideline development and therefore freeing up senior midwifery and medical staff time.

A three year work plan is being developed and year one activities have been outlined in the proposal above. Pending the finalisation of the 3 year plan activities further funding will be required for year 2 and 3.

Appendices

- Maternity Services Strategic Workforce and Bed Capacity Planning Report- September 2018
- Maternity Service Capability and Capacity Work Plan August 18
- Minimum Bed Model Requirements with additional requirement September 2018

Maternity Services Strategic Workforce and Capacity Planning Report September 2018

1.0 Executive Summary

Over the last year maternity services has seen an increase in the number of serious adverse events where resource capacity had contributed to the adverse outcome. Although birth volumes dropped from 8254 in 2008 to 7301 in 2014, and have been static for three years since, over the last year we have seen a 2% increase overall with the majority of increase seen at Middlemore Hospital. WIES is up by 17% over the last two years. Antenatal presentations at Middlemore Hospital have increased by 4% over the last 3 years with longer length of stay and more intervention. Induction rates have increased by 4%, CS by 5.2% and bed days have increased by 13% over the last three years (11% of this increase occurred over the last 2 years).

Pressures on inpatient beds continues to grow, which is demonstrated by the increased length of stay of antenatal and postnatal women in Birthing and Assessment (B&A), along with the volumes transferred to the Botany or Papakura birthing units resulting in their occupancy frequently being over 100%. When analysing the ALOS for women who meet the MOH criteria for 72 hour postnatal stay, in 2017, 1170 women or babies had less than 48 hour postnatal stay. Bed modelling by Wing Cheuk Chen & Dean Papa in 2017 indicated five additional beds were required by 2018. An additional six beds would be required to provide a 72 day stay for the postnatal women/babies requiring more support as well as reducing the number of women going home from B&A. It is a matter of urgency that we work with the master planning team to fast track the planning for additional postnatal beds. The additional 11 beds projected are excluding a potential regional service change for women birthing at Auckland being required to use our facilities. This could potentially require a further 4 to 6 beds (current outflow is 600 CMH domiciled women with an anticipated ALOS of 3 days as this co-hort historically has higher intervention rates).
Whilst we work through the planning for the additional postnatal capacity at MMH, in the short term to decrease the pressures on Birthing and Assessment there is an urgent need to increase the capacity for semi-acute outpatient activity. As in other secondary and tertiary maternity services, a Day Assessment Clinic with access to ultrasound and laboratory would meet this need. Another short term mitigation will be to commence formal negotiations with the privately funded and operated Mangere Birthing Unit (to be opened at the end of 2018) for primary birthing volumes and postnatal beds.

Despite recruiting 23 to 25 graduate midwives per annum over the last two years, midwifery vacancy rates in maternity services remain concerning. Many of the experienced midwives are older than 50 years (43.1% in July 2018(Appendix 4 Chart 1)) and there is deficit of midwives with two to four years of experience. Recruitment of experienced or overseas midwives has declined over the last two years, less available to recruit. The focus is on maximising the graduate numbers into the service which needs to be a priority. A protected budget for the midwifery graduate programme to enable 40 new graduate placements per year for the next five to ten years, regardless of experienced midwifery vacancy rate is the aggressive approach required to meet service requirements, particularly to meet future bed capacity and midwifery union safe staffing standards.

The review of the acute obstetric model of care is under way. An increase in resources is required to meet demands for care along with growth of support staff FTE to enable efficiencies including clerical FTE to support elective caesarean and induction of labour (IOL) process and a sonography service dedicated to maternity women.

A work plan has been developed and year one activities include:

- The provision of a Day Assessment Clinic and resources for semi-acute antenatal assessment with diagnostic support services to immediately decant workload from B&A to a more appropriate less acute area at Manukau Surgery Centre, Level 2.
- Support the development and implementation of a refreshed and resourced midwifery recruitment plan
- Funding additional graduate positions where there is need to appoint above current midwifery FTE. The aim would be to support up to 40 employed graduate midwives per 15 month programme.
- Increase senior midwife (ACMM) number in B&A to enable an increase in leadership for junior staff, effective triaging process and oversight of the induction of labour management
- Scope additional medical support afterhours to facilitate the senior medical officer to focus on high risk women
- Scope workforce and future bed requirements to enable standards and guidelines to be implemented
- Expedite quality improvements through the addition of a dedicated maternity quality role
- Continue work to increase community midwives, Lead Maternity Carers and DHB employed community midwives to ensure workforce pipeline for community midwifery care
- Add an additional 2 clerical FTE to enable non-clinical tasks to support medical and midwifery workforce
- Work with facility master planners to progress expansion of Women's Health bed capacity, taking into consideration the proposed Mangere primary birthing unit.

2.0 Introduction

Maternity services at CM Health have over the last two years seen an increase in workload on the midwifery, medical and allied health workforce. Capacity to care has become challenging, demonstrated in a rise in serious adverse events related to care co-ordination, delay in treatment and insufficient bed capacity. Over the last two years, managers and clinical leads have been proactively managing acute bed requirements through rapid discharge and transfer processes. Despite this, with a consistent rise in acuity of pregnant women in the CM Health regions, the current workforce and facility capacity is unable to meet clinical safe standards of care as determined by local and national guidelines and standards.

This report outlines the current situation along with projects and initiatives introduced to improve efficiencies within CM Health's maternity services to maximize the workforce and capacity capabilities. Subsequently senior managers and clinical leads have determined a work plan detailing resources required and by when in order to meet the service care requirements of the maternity population. The request is for Executive Leadership Team (ELT) to consider and approve the work plan.

Current situation

3.0 Women's Health Serious Adverse Events (SAC 1&2)

a) Since 2014 there have been six maternity SAEs where outcomes implied resource capacity contributed to the outcomes (Appendix 1). Four of these cases occurred in the 2017/2018 fiscal year.
b) Contributing factors included:

- Over subscription in induction of labour times available with limited ability to prioritisation urgent inductions
- Lack of oversight and continuity by obstetric/midwifery staff for women with complex conditions
- Lack of medical and midwifery staff during time of increased demand for service
- Lack of an adequate triaging process in Birthing and Assessment to prioritise those in need of urgent care
- Limited midwifery staff and bed space available to support additional elective caesarean section lists at short notice
- Lack of capacity in staffing and bed spaces

c) Key Recommendations
- From these SAE key findings a number of recommendations have been made. These include:
- Review the optimum number of beds required to provide best practice inpatient care for women.
- Review the optimum level of staffing required in Birthing and Assessment, utilizing external benchmarking.
- Review the optimum medical and midwifery staffing levels in Birthing and Assessment Unit and Maternity Wards
- Review and make recommendations for improving the co-ordination of care through Women's Health Services for women with complex pregnancies.
- Review the option of having SMO oversight, continuity and clinical responsibility for secondary care women with complex pregnancies.
- Review provision of care through a Day Assessment Model, for women requiring regular surveillance of maternal and fetal health where inpatient care is not possible (such as those with preeclampsia), in order to facilitate regular surveillance and continuity of care.
- Develop and provide a model of care that includes a triage system in Birthing and Assessment with clear pathways of communication that can stand up to the high demands on the service.
- Review the supply and allocation of elective caesarean slots to ensure this meets the demands of the service, giving priority to women with high risk pregnancies.
- Institute the Decreased Fetal Movement Guideline, monitor the impact and address resource implications.

4.0 Birth Volumes (Appendix 2)

a) During the 2007/2008 fiscal year the number of women birthing at CM Health facilities peaked at 8254. Since this time the volumes have decreased with a sudden drop to a low of 7301 in 2014/2015 and plateauing for the following two years.
b) 2017/2018 has seen an increase of 2% on the previous year's volume. Middlemore Hospital now has 18.2 births per day versus 17.7 last year.
c) Middlemore Hospital has seen a 3% increase in its birth volumes from last year, where as the primary birthing Units at Botany, Papakura and Pukekohe have had a further 5% decrease. This could be driven either by complexity, locality or social and practice changes.

5.0 Occupancy

a) The occupancy of all areas except for Pukekohe Birthing Unit has seen an increase on last year (see Table 1 below). Pukekohe's postnatal capacity is very dependent on local birthing population numbers as women from outside the Franklin area prefer not to be transferred to Pukekohe for there postnatal stay.

b) Occupancy in maternity is measured 12 hourly at 9 am and 9 pm, as a mid-night measure is not a true reflection of the occupancy for maternity due to high turnover rates. Mothers as lodgers also need to be included as occupy a bed where a maternity baby does not show on organisation bed occupancy.

c) Occupancy of 80% is the optimum for the maternity wards at Middlemore Hospital as beds space is activity managed to enable space for throughput. Elective bed spaces are created before 9 am, while 9pm will measure the rapid discharge to accommodate overnight admissions.

Location	Resourced bed numbers	Number occupied on average 17/18	Average Occupancy 17/18	c/w 16/17
Maternity North	23	18.98	83.23%	79%
Maternity South	22	18.75	85.10%	85%
Botany	12	11.74	97.3%	86%
Papakura	8	7.7	95.57%	86%
Pukekohe	8	5.49	65.85%	67%

Average is taken from 9am/9pm count and includes lodgers (mothers and babies)

d) Women/babies who meet one or more of the six at risk conditions (see below) identified by the Ministry of Health (MOH) in 2012, who should receive 72 hours of postnatal care but are discharge within 48 hours equate to 703 in 2016/2017, 1170 across all facilities. In addition, 693 women went home directly from B&A after birth, 20% with 1 or higher risk factors.

6.0 Birthing and Assessment (B&A) Volumes 2017

B&A data was explored recently as part of the B&A pathways project. A comparison was made between 2013/2014 and 2016/2017 fiscal years. The below is a summary of findings in relation to workforce and bed capacity.

B&A have only seen a rise in total volume of episodes by 1% over the last 3 years, although the workload demands have increased significantly.

a) There has been a 4% increase in antenatal assessments in the last three years. These antenatal women are having a longer length of stay by 30 minutes, resulting in an additional five hours more care per week. The LOS has increased mostly in women who are required to stay longer than 12 hours (45 minutes more per woman). The longer length of stay is thought to be a result of the rising complexity and procedural requirements and the lack of adequate medical and midwifery staffing numbers to undertake timely assessment.

b) 70% of all women who plan to birth at CM Health maternity facilities are registered under the care of a self-employed Lead Maternity Carer (LMC) by the time the birth. Inversely, 30% of women are receiving their primary

maternity services through the DHB community midwifery service with the DHB core midwives as back up for acute assessment, labour, birth and postnatal inpatient care. However, there is a higher percentage of women under DHB care that birth at Middlemore Hospital with 35% requiring their primary maternity (assessment, labour and birth) care to be provided by the B&A core midwifery staff.

c) For women who birth at Middlemore Hospital, the time from admission to birth has increased by 3hrs 40mins which equates to 20,034 more hours per annum of care either in B&A or the Operating Theatre (OT). At least 75% of this time the woman requires one on one care and only 25% of women have an LMC providing primary care, although 11% will need birthing in OT and DHB midwifery support. Therefore the demand on DHB midwifery time equates to an additional 334 hours per week.

d) Only 27% of women birthing at Middlemore Hospital could be eligible to birth at a primary birthing setting. Over half of these women are domiciled in a primary birthing unit locality and could birth at our Botany, Papakura or Pukekohe primary birthing units.

e) The average length of stay after birth in B&A for women waiting to transfer to the maternity wards has increased by 20 minutes. This is thought to be due to waiting for beds to become available for women who are not suitable to transfer to a primary birthing unit or be discharged home.

7.0 Rising complexity in B&A (2014 - 2017)

A comparison was made between 2014 and 2017 prior to commencing the B&A pathway project. The following is a summary of findings where volume of complexity has increased:

a) More births now occur in the Operating Theatre (OT), instrumental and caesarean section, up by 18% (see Appendix 3). Decision making around trialing an instrumental delivery in theatre as opposed to B&A has increased due to safety reasons influenced by the distance from B&A to theatre which changed in 2014.

b) The number of Inductions of labour has increased by 4 % and taking five hours longer compared with three years ago (see graph Appendix 3). The use of epidural for analgesia in B&A has increased by 4%

c) The acute Caesarean Section (CS) rate (category 1 or 2) has increased by 2% (245 more women). The Elective CS rate (category 4) which affects Maternity North staffing and bed capacity is static. However there appears to be an increase in semi-acute CS (category 3), whereby the mothers planned date of CS needs to be brought forward earlier than originally planned, or there is a late presentation that needs to be accommodated. Where the CS needs to be performed within 72 hours of the last assessment, there is no capacity in the elective CS list and the CS is often performed as acute from B&A.

d) The number of small for gestational (SGA) babies has increased from 5.6% to 7.6%. The use of the GROW app in the Maternity Clinical Information System has enabled more consistent and accurate determination of fetal size and the requirement for surveillance against the new national SGA guideline. Large for gestational age babies have also increased from 2.4% to 6.2% of births which will, in part be due to the rise in diabetes in pregnancy within the CM Health population.

e) There has been a small increase in the number of babies born with birth weight less than 2500g (from 7.1% versus 7.5%). Preterm volumes remain similar over the three years. However the rate of transfer to the neonatal unit has gone from 7.4% to 9.1%.

f) Stillbirth/neonatal deaths in CM Health remains fairly static (2% versus 1.9%) but still higher than Auckland DHB at 12.3 per 1000 (2017 Annual Report) or the national average of 10.1 per 1000.
g) Diabetes in pregnancy has risen to > 10% of birthing numbers compared with 7.9% three years ago.
h) The number of unbooked women has increased from 88 in 2014 to 118 in 2017. Although this is not a large number, the increase is concerning after the Maternity Review 2012 identified the need to engage women early in pregnancy and a number of initiatives have been put in place to encourage women to book with a lead maternity carer.

8.0 Pressures on bed capacity

Currently, the maternity service has 73 resourced maternity beds, 45 at Middlemore Hospital and 28 between the three primary birthing units. The primary birthing units also are able to flex up to increase their capacity to 35 where utilizing unresourced physical capacity. The actual physical capacity at MMH is 45 beds. Maternity services frequently experience over demand for bed space, resulting in early discharge or delay in transfer from birthing to postnatal beds. Along with this:

a) WIES for Women's Health secondary has increased by 8% during 2016/2017 with a further 6% during 2017/2018 which is a strong indicator of an increase in complexity of pregnant women (see Appendix 3).
b) The number of bed days used in MMH maternity has increased by 13% between fiscal year 2014/15 and 2017/18.
c) During 2017, 693 women were discharged home directly from B&A (43% Pacific, 25% Maori, 12% primiparous women, 35% Mangere/Manukau, 58% baby with special needs). Most went home within 8 hours of birth.
d) The average length of stay for primiparous women after normal birth is 2.5 days. Post Caesarean Section was 4.2 days. These averages match the expected length of stay for low risk women.
e) Ministry of Health defined in 2012, the criteria for women requiring a longer length of stay. Below is the average length of stay for women who met these criteria:
    - Breastfeeding difficulty = 3.9 days
    - Post Operative Recovery = 3.5 days
    - Ongoing medical problems = 3.8 days
    - Psychological Problems = 3.4 days
    - Babies with Special Needs = 4 days
    - Geographical Isolation= 2.9 days

    Despite meeting these targets, there were still 1171 women/babies who had one of these criteria but went home less than 48 hour after birth.
f) Other demands on bed capacity include:
    a) On the Maternity Wards nearly 500 babies per annum are less than 37 weeks gestation.
    b) Women requiring high dependency care in B&A average one per day.
    c) Unstable women on Maternity South average one per day.
    d) Babies under the care of Oranga Tamariki requiring uplift occur every few weeks which have significant emotional stress on woman, whanau and staff.
    e) Change in practice with implementation of new guidelines impacts on medical, midwifery and radiology resources e.g. Small for Gestational Age, Decreased Fetal Movements.
    f) Demographic changes in the CM Health population with increase in obesity, diabetes and ethnicity (growing Indian/Asian population).

9.0 Workforce

The current 2018/2019 budgeted workforce is outlined below:

a) Midwifery/Nursing FTE

39.05	Senior Midwives/Nurses
30.49	Registered/Enrolled Nurses
96.79	Registered Midwives (including the additional 10 FTE for B&A 2018/2019)
31.70	Community/Caseloading Midwives
21.93	Health Care Assistants
219.96	**Total**

b) Medical

21.82	SMOs (employed + University Of Auckland clinical staff)
5	Fellows (agreed to 5th starting December)
18	Registrars (additional reliever approved for 18/19)
10	House Officers
After Hours	SMO on-site shared by 16 SMOs

c) Supporting staff

37.54	Clerical
3.0	Community Health Workers
3.0	Breastfeeding advocates
1.0	Community Social Worker

Inpatient allied health workers are available Monday to Friday at Middlemore Hospital only.

5 FTE Lactation Consultants are included in the Registered Midwife/Nurse FTE above.

Midwifery skill mix and numbers (See Appendix 4)

g) Years of experience for employed core midwifery as of 31 August 2018 show 29.3% of the workforce are in their first two years and 61.3% have five years or more experience.(Chart 2) Both B&A and the Maternity Wards at Middlemore Hospital demonstrate a large percentage of midwives with one, two or > five years of experience. Concerning is the low numbers in year three and four. The primary birthing units have more experienced staff with less turnover and higher retention. The age bands demonstrate again the workforce is either very young or over 50 years of age, with lesser in the middle range.(Chart 1)

h) DHB community midwifery services, where once had a higher number of experienced midwives, now has an increasing number of Year one and two midwives. Community midwifery is now also a difficult areas to recruit to as the working hours are predominantly Monday to Friday, and younger midwives on band one to five earn considerably less than their equal counterpart within inpatient areas undertaking shift work.

i) Lead Maternity Carer (LMC) midwifery numbers have gradually increased since 2013 from 101 to 119 in 2017 that practiced within the DHB facilities. (Chart 3) Although 71% of women in 2017 had a self-employed LMC as their primary maternity carer, only 44% of births were conducted by the woman's LMC. This occurs mainly due to the complexity of the woman, hence having little impact on decreasing the workload demand on the DHB midwifery service.

j) Despite large volumes of new midwives commencing work at CM Health over the last three years, resignations have been similar and vacancies remain consistent. Resignations are mostly to either LMC practice, parental leave from permanent FTE to casual, moving out of area for cheaper housing purposes or to work closer to home.

- FTE Total Midwifery resignations and new starters

Year	FTE resigned from employment	FTE commenced employment
15/16	20.6	23.75
16/17	34.3	28.7
17/18	22.35	31.8

15% turn over on average in the past three years

9.1 MERAS Midwifery Safe Staffing Standards (Appendix 5)

The Midwifery Employment Representation and Advisory Service (MERAS) along with the New Zealand College of Midwives (NZCOM) developed a discussion document in 2009 on Midwifery Staffing Standards for Maternity Facilities which was subsequently updated in 2014 based on feedback from members in consultation with DHB midwifery leaders. These standards have now been endorsed by the National Maternity Monitoring Group and Midwifery Strategic Advisory Group of Health Workforce New Zealand and a letter was sent to all DHB CEs in April 2018 with a recommendation for these standards to be met. Matching our current staffing number to the recommended MERAS staff staffing standards indicates additional resources required to meet current demand are:

a) Birthing and Assessment = two per shift (already approved for 18/19 budget)
b) Maternity North and South combined = 2.7 per shift on mornings and afternoon, 3.7 at night.
c) Botany Birthing Unit = 0.5 for morning shift and one additional for night shift

Midwifery requirements will be compounded by replacement of nursing FTE with midwifery and /or increasing bed capacity. A more detailed analysis of requirements should follow should CM Health agree to adopt the standards. Realising the needs to increase FTE through a defined recruitment strategy indicates the approach should be made through a medium to long term strategic plan to reach the advised staffing levels to meet the MERAS standards.

Recent and current initiatives to address workforce and bed capacity issues

10.0 Workforce

10.1 The midwifery workforce pipeline

a) CM Health has worked for many years towards maximising its midwifery student capacity, partnerships with Universities and student placements
b) Auckland University of Technology (AUT) midwifery students in the pipeline as of 2018 are:
    Year 1 = 125
    Year 2 = 90
    Year 3 = 70
c) CM Health also place students from Otago/Christchurch during a mid-year gap of six weeks when AUT student placements
d) Since 2007 CM Health maternity services has had a partnership in the development and facilitation of the Midwifery Development & Education Service which host

midwifery students at Middlemore Hospital to provide one on one academic support to AUT students during their labour and birth experience.

10.2 Midwifery New Graduate Programme/Preceptoring model:

a) CM Health new graduate programme is a 15 month programme with three 5 month placements in CM Health maternity service to provide primary, secondary inpatient and outpatient post graduate experience to consolidate practice during their first 15 months of practice. The programme has been offered from 2002 with an initial intake of 15 graduates to now 25 new graduate supported per 15 month programme. This programme is now seen to be the major pipeline of our midwifery workforce.

b) The preceptoring model was fortified in 2017, with clear expectation of support and supernumerary hours in order to maximise the transition from student to new graduate in each area of placement. Clear guidance is given to size of workload or caseload capacity for the new graduate which is lesser for the 15 month period than a staff or community midwife after their second year of practice.

c) There is considerable cost to the service to support the midwifery new graduate programme with 12 weeks supernumerary time, 10 new graduate study days, supernumerary placements in some locations to enable the scope of practice experiences required, and additional work to the current experienced workforce to support these new midwives into practice. However the service and experienced staff are committed to enabling the growth of the workforce through this programme.

d) An analysis was undertaken looking where new graduates employed between 2103 and 2108) are working in 2018. Current new graduate midwifery employment location are:

CMH Core:	88	54%
CMH LMC	45	27%
Other DHB	28	17%
Left profession	3	2%

It appears the retention of new graduate midwives after the CM Health new graduate programme is successful in retaining within the profession with 81% remaining in the CM Health region.

10.3 Midwifery recruitment and retentions initiatives

a) Fortnightly recruitment meetings with allocated CM Health recruitment service personal, to review FTE and discuss/enable upcoming recruitment initiatives.

b) Maternity managers, clinical leaders and talent acquisition consultants are constantly reviewing the approach to recruitment.

c) Advertising options including social media, local and international exposure.

d) A structured and supported recruitment plan to be developed, targeting the recruitment of experienced midwives over the next 3-5 years while the junior workforce continues to grow.

10.4 Nursing workforce support and career pathways

a) CM Health has over 30 FTE nursing staff caring predominantly for postnatal mothers and babies. This enables the nurse to have experience in maternity and infant care, and supplements the midwifery workforce, particularly where midwifery recruitment is difficult.

b) Current student nursing training provides no experience to nurses in maternity services. Nurses are also unfamiliar with the New Zealand model of maternity care,

and have lesser scope of practice than midwives in postnatal care. However they do bring medical/surgical or child health skills than can supplement midwifery care, particularly in secondary services.

c) On employment or if not yet completed, registered nurses are orientated to maternity services by completing a Maternity Programme for Registered Nurses.
d) Professional development pathways are also encouraged in neonatal, lactation, gynaecology or paediatric care to broaden the scope of practice for nurses during their maternity experience and enable a future career pathway.

10.5 Obstetric workforce

The obstetric and gynaecology service underwent job sizing in 2016. Since this time the services has:

a) Established a B&A Obstetric lead position.
b) Schedule 10 RMO rosters for registrars and house officers.
c) Increased the fellow positions from 4 FTE to 5 FTE to enable leave cover.
d) Enabled Virtual Obstetric clinics (VFSAs) through use of the Maternity Clinical Information System which now virtually manages over 800 secondary referrals per annum.
e) Currently reviewing the 24 hour acute obstetric model of care on the Middlemore Hospital site including separating GP/LMC calls from the acute obstetric SMO on duty to an additional SMO.

11.0 Improvement Projects

11.1 Maternity Living our Values project 2017

This project commenced late 2016 to review pathways and processes to maximise efficiencies relating to bed capacity, acuity and staff recruitment/retention. Since this time the following has been achieved:

a) Ward split – the maternity floor once operated as one 45 bedded ward, is now split into two ward (22/23 beds). Maternity South accommodates antenatal and postnatal high risk women with a 2:1 midwifery/nursing workforce. Maternity North accommodates other postnatal, elective caesarean section staffing and transitional care babies from the neonatal unit.
b) Environmental changes – along with the ward split, lean thinking initiative were applied to storage and equipment spaces
c) Clinical Maternity Coordinator roles increased to enable 24 x 7 clinical coordination across whole of maternity service, proactively managing bed capacity and staffing resources. This role initially covered from 7pm to 7am each night. Standardised care pathways are being developed to be implemented before the end of 2018.
d) The elective caesarean section booking pathway where previously paper based and consumed valuable obstetric time, now mostly clerically based with clinical oversight of acute bookings only. Medical, midwifery and clerical FTE for this function yet to be budgeted.
e) A discharge lounge has been created on Maternity North to be utilised primarily during times where bed spaces are over subscribed for women discharged and waiting for transport. As there is no additional staff to oversee this area, no clinical care can continue for women waiting in the discharge lounge to go home.

11.2 Birthing and Assessment Improvement Project 2018

This project started late 2017 to review clinical pathways, improve efficiencies and establish roles and responsibilities of stakeholder. Currently it is focused on addressing the recommendation of the SAE reports (see 3.0 above) which include:

a) Triaging of women on arrive to B&A.
b) Communications between the multiple practitioners involved in care of women utilising B&A.
c) Induction of labour booking process and review of indications, timing and volume.
d) Roles and responsibilities of carers, including the interplay between lead maternity carers and core staff.
e) Review the model of care and CM Health midwifery staff's role in providing secondary care with the aim of mitigating risk for the woman through enabling seamless transfer of clinical responsibility. Once defined this would need to be staffed accordingly as per MERAS safe staffing standards.

Progress to date includes trialling IOL booking process and drafting a triaging process. Both initiatives are dependent on filling the additional midwifery FTE requirement as per budget increase in the 2018/2019 year. An additional senior midwifery role (ACMM) is necessary to manage the triaging, communication and IOL process on B&A north along with enabling additional midwifery support to the increasing junior workforce.

11.3 Pending - Obstetric Capacity Improvement Project

This project is waiting improvement advisor resource to be allocated. It will include review of:

a) Day-time telephone calls and virtual consultations.
b) Semi-acute clinics at MSC (day assessment clinic).
c) Improved continuity of senior medical oversight on the maternity wards.
d) Review of senior medical workforce required after-hours.

11.4 Maternity Clinical Information System Variation Project 2017/2018

This project continues to reduce clinical risk associated with electronic documentation the national maternity information system. The focus is currently address requirements around:

a) Risk management plans.
b) Dual medical and midwifery antenatal or postnatal discharge process.
c) Standardising documentation across the service.

11.5 Primary Birthing Promotion project 2018

The aim of this project is to increase birthing volumes at the Papakura, Botany and Pukekohe primary birthing units to:

a) Reduce the number of low risk women birthing at Middlemore Hospital, reducing pressures staffing and bed capacity.
b) Reduce intervention rates on low risk women.
c) Meet Ministry of Health Maternity Quality and Safety Programme objectives to increase utilisation of primary birthing facilities.

11.6 Education Plan

In partnership with the professional development team:

a) Formalise a roll out plan for education of new or change initiatives e.g. new or changes to guidelines, projects or quality initiatives

b) Support career pathways within the midwifery workforce

11.7 Improvements in current service delivery

a) Diabetes in Pregnancy Service – exploring options to expand clinic capacity.
b) Maternal Fetal Medicine model of care; new model of midwifery care for women requiring tertiary level services.
c) Communication pathways for social concerns (addressing social work pathways).
d) Clerical restructure 2017 resulting in improved team coordination and operational manager oversight.
e) Escalation plans for all DHB maternity facilities/services.
f) Baby alerting system to track maternity inpatient babies at Middlemore Hospital and Botany. Yet to be implemented at Papakura and Pukekohe birthing units.
g) Neonatal observation guideline including Neonatal Early Warning Score and pulse oximetry testing.
h) Preparation for BFHI re-assessment October 2018
i) Small increase in ultrasound capacity at Manukau SuperClinic
j) Organisational initiatives e.g. Clinical Portal, Care Compass, Fundamentals of Care

Strategic direction; what do we need

12.0 Bed capacity – measuring and defining

a) In order to adequately estimate bed requirements future assumptions will need to be taken such as:
   - IOL rate will track towards 30%
   - CS rate will track towards 30%
   - CM Health has a need to meet the Ministry of Health standards for 72 hour minimal length of stay for postnatal women/babies who meet the six categories (as defined above)
   - The maternity outpatient acute capacity will continue to grow to match the rise in co-morbidities and improved screening and engagement in care
   - Low risk women will be enabled to birth in local primary birthing facility
   - The Primary Maternity Service (Section 88 & DHB services specifications) model of care will remain as in 2018.
b) There is an urgent need to meet the demands of rising complexity in maternity outpatient services. Enabling a Day Assessment Clinic for semi-acute antenatal assessment with diagnostic support services would immediately decant unnecessary workload in B&A.
c) There is a need to define the expectation for transitioning babies from neonatal units to occupy maternity bed spaces, which is unique to CM Health maternity services. The benefits of enabling the mother to transitional to parenthood, under the supervision of midwifery/nursing and lactation support services enables a smoother transition to home.
d) The current 45 beds at Middlemore Hospital is already short by 5 beds if based on the CM Health 2017 bed model output (Minimum Bed Model Forecast Requirements, Wing Cheuk Chen & Dean Papa – Appendix)
e) If we include women needing to stay longer as per Ministry of Health standards, bed requirements calculated a further increase by 6, giving a total of 11 beds required now.

This excludes an increase in transitional babies or women domiciled in CM Health currently birthing at Auckland Hospital, repatriating to CM Health facilities

f) Future capacity requirements need to be reanalysed and future facility planning commenced.

13.0 Workforce planning – measure and defining for medical and midwifery

a) Undertake in-depth analysis of the MERAS midwifery safe staffing standards and work towards implementation.

b) Review acute obstetric model of care and enable increase in resources to meet demands for care e.g. enable additional SMO or RMO during evenings (time of high demand for service).

c) Enable growth of support staff FTE to enable efficiencies e.g. additional ACMM in B&A for triaging, oversight of IOL process and support for a more junior workforce; clerical FTE to support Elective Caesarean section and Induction of Labour process; additional sonography services dedicated to maternity women.

13.1 Growing the workforce in number and skill

a) Support the development of a detailed local and international midwifery recruitment plan for the next 3 to 5 years. Include the planning for growing more DHB and LMC community midwives.

b)

c) Develop a retention plan for existing staff with a focus on professional development and enabling initiatives. Allocate adequate budget to the midwifery new graduate programme to enable 30 new graduate placements per year for the next 5-10 years, regardless of vacancy rate. This is to ensure future pipeline of adequate midwifery FTE.

d) Enable dedicated senior clinical support roles for new graduate and new to service staff B&A such as clinical specialty midwives in secondary care. This would enable a career progression for core midwives in secondary services.

e) Maternity services requires additional FTE dedicated to enabling quality and safety functions e.g. incident investigation, guideline development.

f) Continue to recruit medical staff at all levels to reflect the need.

g) Increase secondary care sonography services to meet maternity acute demand.

h) Increase clerical and allied health services to support service improvement activities.

In summary

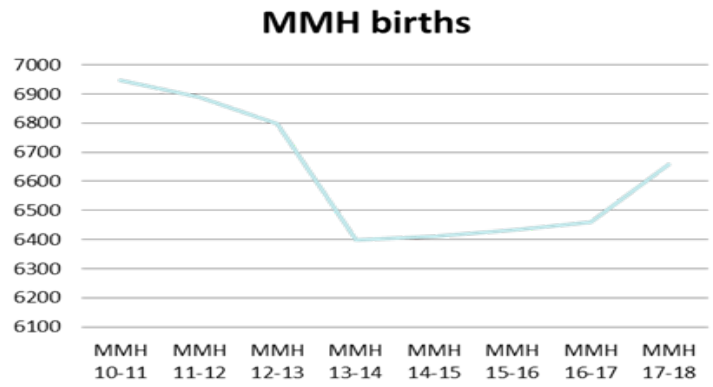
The request for a work plan of activity to address workforce and bed capacity needs was made by members of the Executive Leadership Team. This paper is to inform the current situation, what has already been undertaken to date to address both workforce and bed capacity issues, and provide a plan moving forward. Focus on workforce development particularly midwifery and medical, and urgently commence the planning for increasing the capacity of maternity services is recommended.

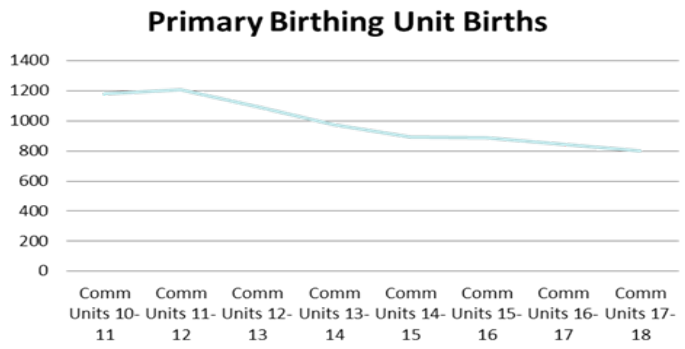
Appendices: 4

APPENDIX 1 SAEs numbers

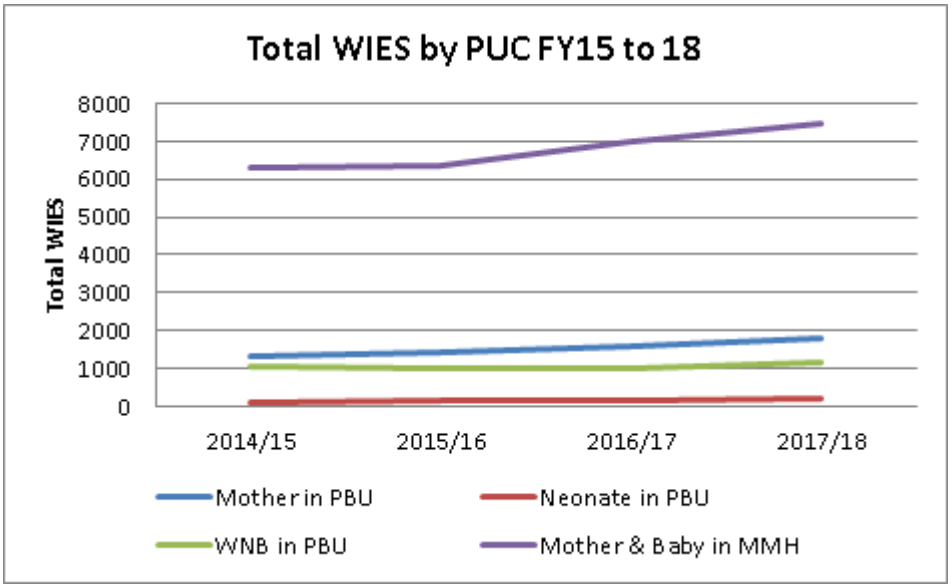
Year	Number of Cases	Number of Cases with Resource Implications	Description of Resource Concerns
2014/15	5 Maternity cases 1 Gynaecology case	WH_90109 [redacted]	Induction of labour slots were oversubscribed. Non-prioritisation of an urgent induction of labour.
2015/16	3 Maternity cases 1 Gynaecology case	Nil	
2016/17	6 Maternity cases 2 Gynaecology case	WH_106038 [redacted]	High acuity of Birthing and Assessment and maternity wards. Twice the number of induction of labours performed than usual. No escalation plan to manage the high acuity.
2017/18	7 Maternity cases	WH_119098 [redacted]	Lack of oversight and inadequate continuity of care. Number and complexity of maternity patients coupled with lack of doctors and midwives.
		WH_119042 [redacted]	Inadequate allocation to a senior doctor for clinical oversight and continuity of care. No triage system on Birthing and Assessment. Limited availability of elective caesarean slots.
		WH_125620 [redacted]	Competing priorities with high clinical demand in Maternity Services. Review the optimum number of beds required to provide best practice inpatient care for women.
		WH_127708 [redacted]	There was a lack of capacity both in staffing and bed space in Maternity Services to assess Mrs M in a timely manner. There is no formal triage system in Birthing and Assessment.

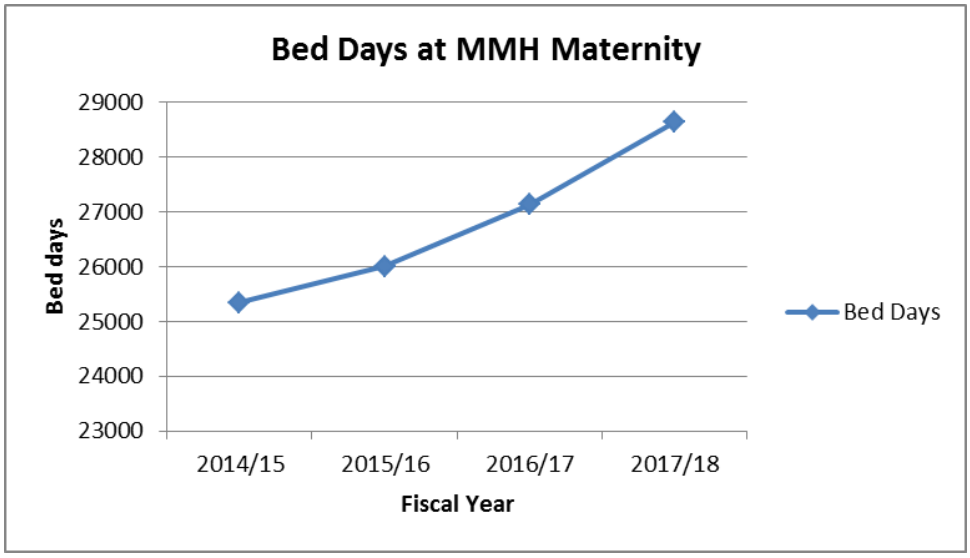
APPENDIX 2 – BIRTH VOLUMES

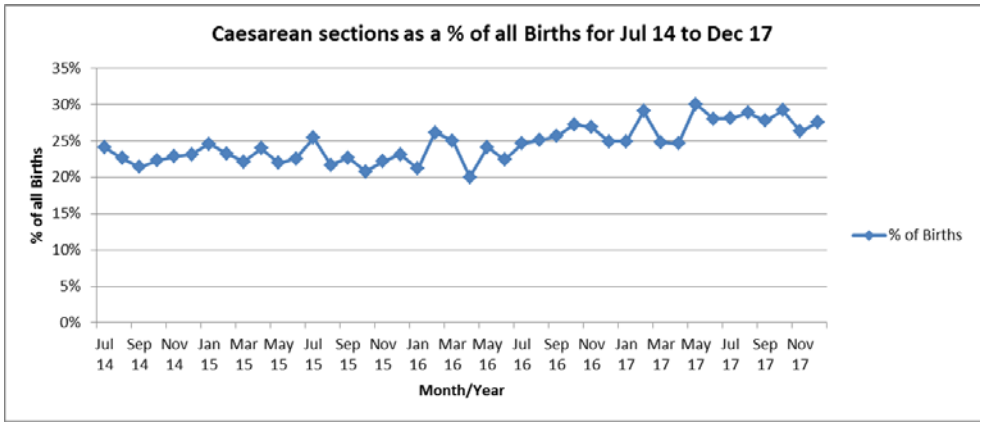


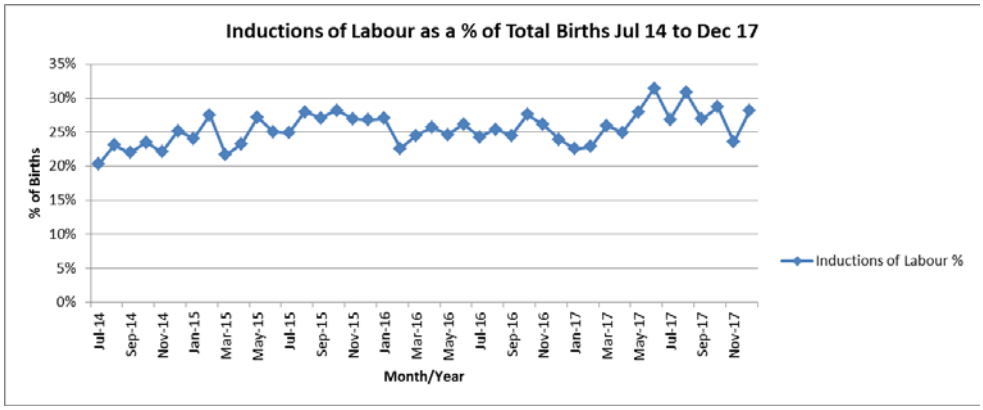


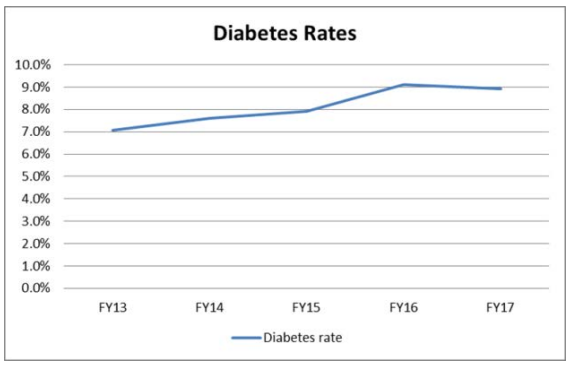
APPENDIX 3 – WIES/Bed Days, CS, IOL and Diabetes rates 2015 To 2017








Inductions of Labour as a % of Total Births Jul 14 to Dec 17
35%
30%
25%
20%
15%
10%
5%
0%
% of Births
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17
May-17
Jul-17
Sep-17
Nov-17
Month/Year
Inductions of Labour %


Diabetes Rates
10.0%
9.0%
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
FY13
FY14
FY15
FY16
FY17
Diabetes rate

APPENDIX 4

Chart 1

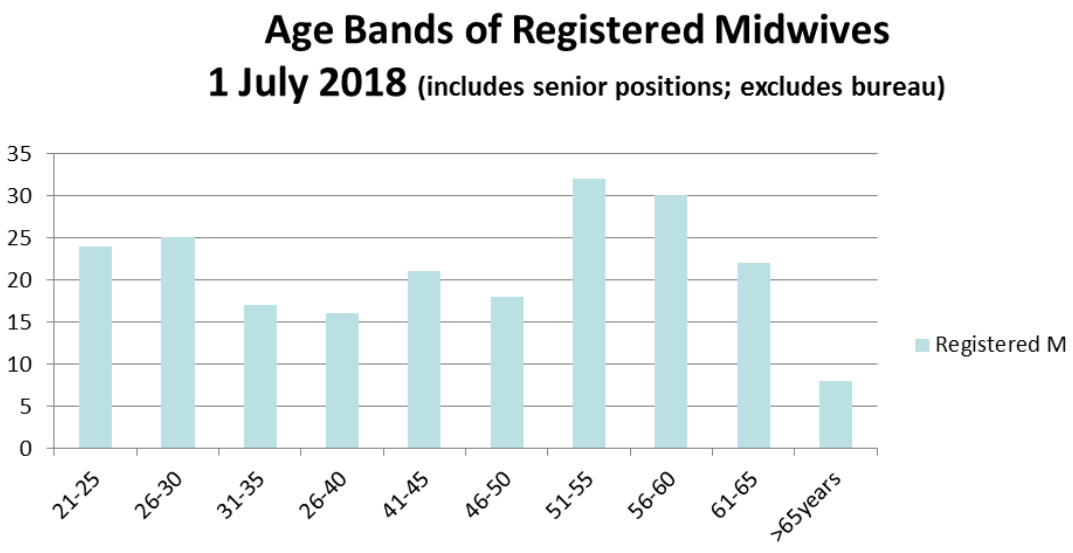
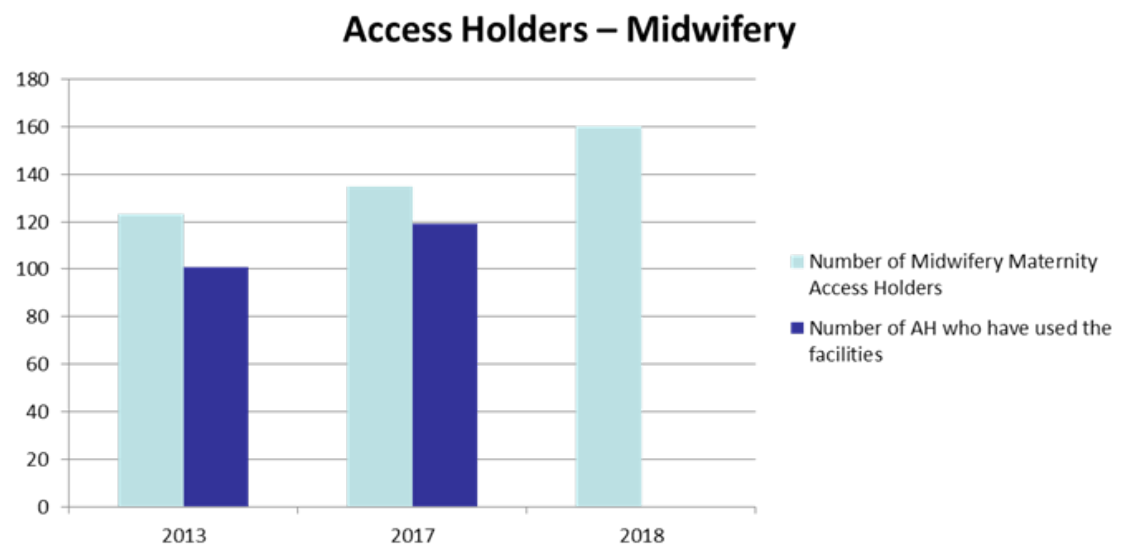


Chart 2

Midwives Years of Experience (excludes Senior positions and Bureau)		**31 Aug 18**
Years of Experience	FTE actual	Percentage
Year 1	18.9	15.70%
Year 2	16.4	13.60%
Year 3	6.8	5.60%
Year 4	4.6	3.80%
Year >5	74.05	61.30%

Chart 3


Access Holders – Midwifery
180
160
140
120
100
80
60
40
20
0
2013
2017
2018
Number of Midwifery Maternity Access Holders
Number of AH who have used the facilities

Women's Health Maternity Workforce and Bed Capacity Work Plan 2018 (Draft 4)

The following work plan is appendices to the Women's Heath Maternity Workforce and Bed Capacity Executive Leadership Team paper submitted September 2018 and should be considered in conjunction with. Please reference the paper for further detail on the below activities.

1	**Increase midwifery workforce capability to optimise service delivery**					
	Key Action Step	Timeline	Expected Outcome	Measure	Person responsible	Comments
1.1	Develop and implement a refreshed midwifery recruitment plan inclusive of • Dedicated recruitment talent consultant to assist with formulation of the plan • International advertising and working with the MCNZ to assist the overseas midwives through the registration/practicing requirements. • National advertising through Schools of midwifery for the CMH graduate programme • Media/resource development to showcase Counties on the web.	Year 1 By December 2018 Implementation to end of year 3	Plan developed and implemented	Increase number of experienced starters by 5 FTE each year in addition to graduates as per 1.2.	Director of Midwifery	
1.2	Secure approval from ELT and funding for additional graduate positions where there is need to appoint above current midwifery FTE. The aim would be to support up to 40 employed graduate midwives at one time across the service.	Year 1 - 3	Service will support maximum number of graduate midwives	40 graduates in programme employed	General Manager, Kidz First and Women's Health	This enables a growth in the workforce for the FTE increase required; the intake to occur once they have graduated in a timely manner and absorbs the turnover with staff leaving.
1.3	Increase the ACMM position in B&A by 4.6 FTE enabling a ACCM position 24/7 for the Assessment Unit in B&A North for leadership for junior staff, robust triaging process and oversight of the induction of labour management.	Year 1-2	Year 1 2.0 FTE ACMM appointed, Year 2 2.6 FTE appointed	By June 2020 2 x ACMM on each shift B&A	Maternity Service Manager	Meet recommendation of SAE

1.4	Analyse detailed requirements and implement MERAS safe staffing standards (3 year plan to be developed)	Year 1 (analysis) Increase FTE year 2/3	FTE requirements identified Year 1, 50% met by Yr2, 75% by Year 3	FTE to MERAS standards ratio	Maternity Service Manager	MERAS standards have been endorsed by the National Maternity Monitoring Group with recommendations for DHBs to implement
1.5	Add additional midwifery FTE to support process improvement e.g. • Additional quality role to support existing Quality and Risk Manager	Year 1 – 1 FTE at SMW level 2 quality role	Quality role established	SAEs completed within required timeframe	Maternity Service Manager	
	• Maternity Referrals Centre (for ELCS and IOL process oversight and clinical troubleshooting)	Year 2 – increase CMS referrals by 0.2 FTE	IOL and ELCS booking processes can be fully implemented	Electronic booking processes in place		Improved booking processes
	• Midwifery FTE for extending Elective LSCS theatre time enabling two of the current five sessions to be full days (another 4-6 elective/semi-acute CS per week)	Year 2 – 0.4 FTE additional to the Maternity North budget by July 2020	Theatre time for ELCS can be extended 2 full days per week	Bookings for ELCS can be planned reducing number of electives CS from B&A		Demands for ELCS time met
1.6	Continue to work with AUT and other universities to maximise the student placements throughout at CM Health • Review and Refresh the Midwifery Development and Education Service to best meet the needs for the students and service.	Year 1	Review of MDES service completed	Report on MDES provided to Maternity Strategic Forum by Dec 18	Director of Midwifery	Review of current work undertaken to maximise student and new midwife opportunities

	• Investigate scholarships for RN to RM training – 2 per year for ? half pay (grant so not taxed) and work an average one day a week throughout training • Implementation of scholarship programmes for RN to RM	Year 2 Year 3	Investigation complete and funding requirement identified	Request for approval and support for funding to Maternity Strategic Forum by June 2020		
1.7	Continue work to increase community midwives (Lead Maternity Carers and DHB employed community midwives) to ensure workforce pipeline for community midwifery care • Identify safe staffing numbers for DHB employed CMW • Outline recruitment plan for DHB employed CMWs • Undertake retention initiatives for graduate midwives in DHB community midwifery service • Identify additional support requirements for LMC graduates in CMDHB	Year 1 Year 2 Year 3	CMW/case-load ratios agreed by DHB management Retention initiatives approved and implemented	CMW/case-load ratios met DHB employed CMW FTE vacancies < 2% LMC workforce numbers increase by 5 per annum	Director of Midwifery Maternity Service Manager Maternity Service De-velopment Manager	MERAS safe staffing standards do not determine the ratios for DHB employed community midwives. These need to be locally set. LMC numbers in CMDHB area have been static for 3 years.

1.8	Develop and recruit into senior midwifery specialty roles for secondary maternity services: - Appoint speciality positions/intern positions - Develop and implement a programme for inpatient secondary care midwifery specialty positions to transition to specialists. - Enable senior midwifery preceptors for new and graduate midwives orientation.	Year 2 – scoping Year 3 – implement	Scope and position outlines agreed for each role. Implement specialty roles	Positions appointed	Director of Midwifery	Need to have ACMM position 24x7 in B&A in place before can scope these requirements
1.9	Implement retention initiatives i.e. - Career pathways to all senior midwifery positions - Consider offering accommodation options for midwives travelling to CMH from out of Auckland - Survey midwifery staff to determine current sustainability issues - Develop and implement a structured supervision/counselling service/framework	Year 1 Year 2 Year 2 Year 2	Feedback from staff available Development programme outlined	Midwives progressing through pathway Retention of experienced midwives currently employed who live out of area Survey complete Retention of experienced midwives currently employed who live out of area	Director of Midwifery Maternity Service Manager	Need Year one changes in place prior to scope further requirements
1.10	Complete a follow-up analysis of LMC and DHB workforce profile for	Year 1			Director of	

	required workforce projections for 5-10 years inclusive of projected demands on service.				Midwifery	
2	**Increase the number and skill of Obstetric medical workforce**					
	Key Action Step	Timeline	Expected Outcome	Measure	Person responsible	Comments
2.1	Scope additional medical support in and after hours to facilitate the senior medical officer to focus on high risk women - Request funding year 2 for additional medical support if required, and recruit - Implement continuity of care model for SMO Obstetric group	Year 1 Year 2	Scoping undertaken Funding secured Model implemented	Scoping document available by June 19 Allocated budget to support model of care Audit continuity model	Women's Health Clinical Director	
2.2	Improve senior medical continuity for Maternity Ward rounds - Review Obstetric SMO roster to achieve continuity - Implement continuity model for Maternity Ward rounds	Year 2	Review undertaken Implementation of change required	Care of women while antenatal inpatient is provided by dedicated Obstetric SMO	Women's Health Clinical Director	No additional resource required
3	**Engage allied professionals and services to meet the growing demands of service delivery**					
	Key Action Step	Timeline	Expected Outcome	Measure	Person responsible	Comments
3.1	Increase secondary maternity care sonography services at Manukau Super Clinic	Year 1	USS available prior to secondary consult	USS planned prior to secondary obstetric	Women's Health Clinical Director	Secondary Obstetric USS services required for women attend Day Assessment Clinic and

				clinic appointments		routine obstetric clinics
3.2	Add clerical 2 FTE to enable non-clinical tasks to be performed by non-clinicians e.g. - ELCS/IOL booking process - Day assessment clinic scheduling - Additional clerical support at Botany Birthing Unit	Year 1 Year 2	IOL/CS process supported. Day Assessment clinic can operate Casual clerical at Botany changed to permanent	IOL/CS booking processes implemented Day assessment clerical requirements met Botany clerical FTE increased	Maternity Service Manager	Processes can not be implemented without adequate clerical support
3.2	Grow lactation consultant workforce by offering and supporting midwifery and nursing staff to meet IBCLC exam requirements	Year 2-3	Programme of support developed including potential funding requirement	2 staff in training to sit IBCLC exam by June 2020	Maternity Service Manager	At risk of no LC service as currently no training programme available
3.3	Develop a formal professional development programme and pathway for nursing staff in maternity services	Year 2	Pathway for registered nurses identified	Pathway for RNs implemented	Clinical Nurse Director	
3.4	Increase inpatient social work FTE to enable dedicated social worker to be available to respond to women in B&A with perinatal loss, and provide social work support in weekends	Year 2-3	Social work requirement scoped and	Social work service plan implemented		Social work needs were identified as part of the External Maternity

			plan created			Review and not yet addressed
4	**Scope and plan to increase bed capacity**					
	Key Action Step	Timeline	Expected Outcome	Measure	Person responsible	Comments
4.1	The provision of a Day Assessment Clinic and resources for semi-acute antenatal assessment with diagnostic support services to immediately decant workload from B&A to a more appropriate less acute area at Manukau Surgery Centre, Level 2.	Year 1 (see ELT paper)	Resource requirement identified and plan to open by Dec 18	Open by Dec 18	Maternity Service Manager, Women's Health Clinical Director	Dependent on approval of funding for year 1. See ELT paper re funding
4.2	Scope workforce and future bed requirements to enable standards and guidelines to be implemented. - Put forward proposal to ELT to occupy Ward 21 once medical ward no longer required. - Work with facility master planners to progress expansion of Women's Health bed capacity outside of Galbraith building, considering the positioning and availability of Primary birthing unit. - Put forward a proposal to engage with providers of Private Primary Birthing facilities	Year 1 Year 1-3 Year 1	Proposal submitted and approved Women's Health high priority in facilities master plan CMDHB engaged with PPBU providers	Proposal accepted by ELT and plans developed to fully occupy by Year 2 Progress made with master plans PPBU facilities utilisation maximised and measured	General Manager, Kidz First and Womens Health General Manager, Child, Youth and Maternity Integration	
4.3	Confirm model of care for transitional babies from neonatal care to maternity services	Year 1	Implement outcome of current work	Transitional baby care area identified	Nettie Knetsch General Manager,	Ko Awatea already commenced model of care work for Neonatal Unit which identifies

		Year 2		Operationalise recommendations	Kidz First and Women's Health.	transitional baby care requirements

Minimum Bed Model Forecast Requirements (Peak Demand)

Source: CM Health 2017 Bed Model Output, Wing Cheuk Chan and Dean Papa
Caveat: Does not include any 'capped bed requirements, e.g. women discharged home directly as this is not recorded in the 'actual bed utilisation' data

			BASELINE	FORECAST Maternity and Womens' Project Requirements based on population growth in 2017 (Minimum)										
Site	**Unit**	Planned Physical in 2013	Physical Capacity 2018	**17/18**	**18/19**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**
Inpatient	**NNU**	23 cot spaces	38	34	35	35	36	37	38	38	39	39	39	39
Inpatient	**ALBU**	28	27	22	23	23	24	24	25	25	25	25	25	25
Inpatient	**Maternity**	48	45	48	50	51	52	53	54	55	55	56	57	57
Inpatient	**Gynaecology**	NA	15	22	23	23	24	24	25	25	26	26	27	27
Primary	**Botany**	NA	15/4	16	16	16	17	17	17	17	18	18	18	17
Primary	**Papakura**	NA	10/3	10	11	11	12	12	12	12	12	12	12	12
Primary	**Pukekohe**	NA	10/2	10	11	11	11	12	12	12	12	12	12	12

Modelling Notes:
- bed modelling as 20 Oct 2017 on baseline 2016 Sep to 2017 August (refers to 16/17 base year)
- Forecast assumptions demographic only
- As the bed pool becomes bigger, the more we are able to cope with peak demand more efficiently

1. Does not include 1170 women needing to stay longer under MoH 3 days guideline = 3 beds
2. Does not include 693 women going home <12 hours of delivery - if 80% stayed 2 days = 3 beds
3. Shortfall at MMH therefore for 18/19 5 + 6 = 11 beds
NOTE:Does not include any further significant increase in current intervention rates (i.e. CS rate above 30%) or potential repatriation from ADHB

Recommendation:

Galbraith level 5 ward 21	30 beds	22 beds	Antenatal and High Risk Postnatal ex Galbraith Level 4 Maternity
		4 beds	Potential move commencement of Induction of Labour to Antenatal Ward - freeing up capacity in B&A
		2 beds	Anticipated Gynaecology Overflow
Galbraith level 4	45 beds	37 beds	Postnatal beds (increase of 14 beds)
		8 beds	Transitional Care (mothers and babies ex Neonatal Unit)

Counties Manukau District Health Board
Executive Leadership Team
Proposed Women's Health use of Ward 21

Recommendation

It is recommended that the Executive Leadership Team:

Receive this summary of Women's Health proposed use of Ward 21, including preliminary cost estimates.

Note that cost estimates will be reviewed and updated prior to and during the phased implementation.

Approve the use of Ward 21 by Maternity Services, with a phased implementation of the proposed utilisation of Ward 21 and the current Maternity South areas to take place from 1 April 2019.

Prepared and submitted by: Nettie Knetsch, General Manager Kidz First and Women's Health, Dr Sarah Tout, Clinical Director Women's Health, Thelma Thompson, Director of Midwifery on behalf of Margie Apa, Chief Executive Officer

Endorsement *– all* ***decision*** *papers requiring ELT approval, particularly if they contain either financial/legal/HR/IT or Facilities information,* ***MUST*** *obtain the appropriate endorsement before submitting to ELT. Final endorsement/sign-off is to be obtained from the following divisions:*
(Where not applicable please insert 'n/a')

Division	***Name of person endorsing***	***Date***
Finance	[redacted]	6 December 2018
Legal	n/a	
HR	n/a for this stage	
IT	n/a for this stage	
Facilities	No Facilities Impact (building or infrastructure anticipated) Non Clinical Support cost (cleaning, orderlies, patient meals etc.) to be confirmed once detailed phasing completed.	

Purpose

To request ELT approval for Women's Health use of Ward 21 beginning in 2019.

Background

Over the last two years, the rise in acuity of pregnant women in the CM Health region has left the current workforce and facility capacity unable to meet standards of care as determined by local and national guidelines. The planning for a new Women's Health building as part of the planned Galbraith replacement will take into account and address the current challenges and future demand projections. However development and completion of this project is at least five years away.

On 21 September 2018 Women's Health submitted a paper to ELT outlining these challenges in detail and seeking approval of a three-year work plan to improve workforce and facility capacity. As an interim option, the work plan also proposed that Women's Health use the recently vacated Ward 21 at Middlemore Hospital to increase postnatal and transitional neonatal care capacity, relocating antenatal and some categories of postnatal women from current Maternity Floor to the vacated Ward 21.

On 9 November 2018, the GM, CD and senior SMO from the Neonatal Unit presented an overview of the maternity and neonatal capacity issues to the Senior Leadership Team (SLT) and also outlined the potential utilisation of the vacated Ward 21 for Women's Health. There was endorsement from this forum.

Following this meeting the CEO asked Women's Health to provide further information on the implementation approach and expected costs. This paper aims to outline the proposed approach and timeline, expected benefits and estimated costs for ELT, noting that cost estimates will need to be confirmed prior to and during implementation.

Note: Please refer to Maternity and Workforce Capacity paper presented to ELT on 21 September 2018 for further detail on CM Health's Maternity Services capacity challenges.

Proposal

1. Current situation

The Maternity Floor of Middlemore Hospital is located on Level 4 of the Galbraith building. Currently, there are 45 beds on the Maternity Floor; Maternity South with 22 antenatal and flexi high risk postnatal beds and Maternity North with 23 postnatal beds (including neonatal transitional care babies). As per the bed projections provided with the ELT papers, bed availability is not sufficient to meet current or projected demand:

- Frequent over demand for beds, resulting in early discharge or delay in transfer from birthing to postnatal beds. There is a shortfall of 11 postnatal beds, including the 5 beds required for women needing longer post-natal stays as per Ministry of Health specifications.
- Antenatal bed requirements have risen with peak demand, projected to rise to 16 beds by the end of 2018/19 and 18 beds by 2019/20. The number of women in Birthing and Assessment has increased for antenatal women within the 6-24 hour stay category. These women should be accommodated on a dedicated antenatal ward.
- Over the years, the increasing complexity of health related issues in women has increased the presentation of acute gynaecological conditions putting pressure on the gynaecology services and the number of acute admissions.
- Demand has also increased for the Neonatal Unit, with an increase in Neonatal Unit volumes and occupancy in the Unit as well as transfers to the postnatal floors and community birthing units in particular over the past 18 months.

The Galbraith building was declared earthquake prone in 2018/19 and a new Women's Health building will therefore be required within the next ten years, however completion of this is at least five years away. In the interim, there is an opportunity for Women's Health to use the vacated Ward 21 (a 30-bed ward) to add additional maternity and some acute gynaecology bed capacity while awaiting development of a new Women's Health Building.

2. Preferred use of Ward 21 as an interim option to address Maternity capacity challenges

Identifying the preferred use of Ward 21 by Women's Health involved consideration of multiple factors, including:

- Current and projected demand across services
- Model of care
- Local and national guidelines
- Policy environment
- Appropriate practice for co-location of different patient groups, e.g. not co-locating women who have had terminations or who have experienced loss with women with babies.

Based on consideration of these factors, Women's Health is proposing to use the 30-bed Ward 21 primarily for antenatal women (24 beds) with 6 beds dedicated to gynaecology care. The 45-bed Maternity Floor would therefore become primarily a postnatal floor (37 postnatal beds) with dedicated Transitional Care capacity for neonates and their mothers of 8 beds/cots. Benefits of this approach include:

- **Increasing postnatal capacity to 37**: This would meet the current shortfall, enabling more women to have their postnatal stay at MMH and creating capacity to care for women requiring longer stays according to Ministry of Health specifications.
- **Increasing antenatal capacity to 24:** This would help to meet rising demand and manage peaks in demand. We will also use the capacity for mothers who are still under maternity care whilst their babies are in the Neonatal Unit as well as potentially for mothers who have experienced loss.
- **Providing overflow for gynaecology inpatients,** reducing dispersion across the hospital and reducing demand for non-gynaecology wards to host gynaecology patients.
- **Immediate demand relief for the Neonatal Unit** by creating dedicated transitional care cots/beds on the Maternity Floor.

Table 1 below summarises the proposed use of Ward 21 and additional capacity on the Maternity Floor, including proposed bed allocation and patient inclusions/exclusion.

Table 1 Overview of proposed use of Ward 21 and the additional Maternity Floor capacity

Location	Total beds	Proposed bed allocation	Patient inclusions/exclusions
Ward 21	30	24 antenatal beds 6 gynaecology overflow beds	• Some antenatal beds will be used as flexi-beds for postnatal mothers who have experienced loss and mothers whose babies are in the neonatal unit. • There will be no babies on this ward.
Maternity Floor	45	37 postnatal beds 8 Transitional Care cots/beds	• Postnatal women including high-risk postnatal • Transitional Care includes mothers with low acuity neonatal level 2 and level 1 babies

3. Implementation approach and expected costs

Staffing Ward 21 will require transfer of antenatal and some postnatal care staff from the Level 4 Maternity Floor to Ward 21 and recruitment of additional resource to support gynaecology care. Additional resources do include a House Officer and a Charge Midwife Manager (this will be an additional Ward), HCAs and Ward Clerks. It also requires backfilling of staff on the Maternity Floor and recruitment of resources to support the transitional care capacity.

The total cost per annum is $ 4,757,876. A three-stage approach to implementation is proposed, with occupancy of Ward 21 beginning on 1 April 2019 and full capacity across both floors reached by 30 September 2019. While the originally proposed start-date was January 2019, this has been extended in recognition of the time required to achieve appropriate staffing levels across both floors.

The total costs include direct costs such as staffing and clinical and non-clinical supplies. The costs exclude cleaning, orderlies, patient meals and other non-direct cost.

There is an additional one-off Implementation Project Manager cost for a period of 6 months starting from 7 January 2019. There is currently no capacity in the Women's Health senior clinical or managerial teams to provide the day-to-day planning and project management required for this complex reconfiguration and re-location of services.

The proposed timeframes and costs are outlined in Table 2 below.

Table 2 Expected timeframes and costs of Maternity Services' proposed use of Ward 21 and the Maternity Floor

Stage	Dec-18 to Apr-19 (Stage 1)	May-19 to Jun-19 (Stage 2)	Jul-19 to Sept-19 (Stage 3)
Activity	Recruit project manager Recruit staff required to relocate all current antenatal and selected postnatal beds and create 6 gynaecology overflow beds on Ward 21 Ward 21 open and operational by 1 April 2019	Recruit staff required to start Transitional Care Unit on the Maternity Floor Transitional Care Unit operational by 30 June 2019	Recruit additional registered midwives required to reach full capacity on Maternity floor Achieve full capacity on the Maternity Floor and ward 21 (including Transitional Care) by 30 September 2019
Resource to be recruited/secured	Project Manager Supplies Ward 21 16 FTE RN/RM Ward 21 5.07 FTE HCA Ward 21 3.3 FTE Ward Clerk Ward 21 1 FTE House Officer Charge Midwife/Nurse Manager	5.2 FTE RN 1 FTE Lactation Consultant Maternity Floor 1.07 HCA for night shift	17.7 FTE RM/RN
Expected costs	**$342,984**	**$718,495**	**$819,773**
Expected annual cost on full implementation			**$4,757,876**

- Capital costs are likely to be minimal and may include additional cots, small equipment and additional vital signs monitors. This will be confirmed as soon as we have fully mapped out the use of Ward 21 with all of its current beds and equipment and what equipment will remain on the Maternity Floor.
- The phasing and expected full annual cost will depend on how fast staff can be recruited.

Appendix

1. Detailed Costing spreadsheet for period 1 January 2019 – 30 June 2020.

ELT paper summary

Ward 21

Operating FTE

Group	Account	Jan-19	Feb-19	Mar-19	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
2045 House Officers	2045				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2205 Senior Nurses	2205				1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2210 Registered Nurses	2210				16.00	16.00	16.00	16.00	16.00	16.00	33.82	33.82	33.82	33.82	33.82	33.82	33.82	33.82	33.82
2235 Health Service Assistants	2235				5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
2830 Admin Clerical (Clinical)	2830				3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
Project Manager		1.00	1.00	1.00	1.00	1.00	1.00												
		1.00	1.00	1.00	27.46	27.46	27.46	26.46	26.46	26.46	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28	44.28

Transitional Care

Operating FTE

Group	Account	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
2205 Senior Nurses	2205	0.00	0.00	0.00	0.00	0.00	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2210 Registered Nurses	2210	0.00	0.00	0.00	0.00	0.00	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
2235 Health Service Assistants	2235	0.00	0.00	0.00	0.00	0.00	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**	**7.23**

Ward 21

Operating $

Group	Account	Jan-19	Feb-19	Mar-19	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
2045 House Officers	2045				12,624	13,466	10,773	12,939	12,786	11,498	12,847	12,645	12,042	13,400	11,126	12,296	12,622	13,466	10,773
2205 Senior Nurses	2205				9,711	10,184	8,426	10,165	10,490	9,026	10,092	10,002	9,671	10,490	8,627	9,514	10,002	10,490	8,678
2210 Registered Nurses	2210				160,023	144,195	137,933	98,322	101,369	87,666	244,647	227,178	236,248	251,607	213,010	219,514	248,426	237,564	218,325
2235 Health Service Assistants	2235				36,529	35,340	32,716	29,934	30,637	26,948	31,193	29,450	29,598	32,490	27,078	28,319	30,934	30,821	27,583
2830 Admin Clerical (Clinical)	2830				25,187	25,313	22,312	18,116	18,517	15,926	18,606	17,654	17,213	18,783	16,014	16,997	18,273	18,888	16,469
Project Manager		9,938	9,938	9,938	9,938	9,938	9,938												
sub total		9,938	9,938	9,938	254,012	238,437	222,098	169,475	173,799	151,063	317,384	296,928	304,772	326,771	275,856	286,640	320,257	311,230	281,828
							744,361												3,216,002
Non Sal items																			
4000: CLINICAL SUPPLIES					**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**	**19,453**
5000: INFRASTRUCTURE & NON-CLINICAL SUPPLIES					**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**	**18,497**
8000: Internal Allocations					**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**	**21,209**
							177,474												709,897

Transitional Care

Operating $

Group	Account	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
2205 Senior Nurses	2205	-	-	-	-	-	9,047	9,963	10,282	8,847	9,891	9,804	9,479	10,282	8,456	9,325	9,804	10,282	8,506
2210 Registered Nurses	2210	-	-	-	-	-	107,076	35,366	36,151	31,684	37,703	34,553	36,769	40,807	32,910	33,282	39,462	36,151	33,416
2235 Health Service Assistants	2235	-	-	-	-	-	23,522	5,439	5,452	4,777	5,548	5,210	5,413	5,738	4,820	5,020	5,495	5,637	4,756
sub otal nursing		**-**	**-**	**-**	**-**	**-**	**139,645**	**50,768**	**51,885**	**45,308**	**53,142**	**49,567**	**51,661**	**56,827**	**46,186**	**47,627**	**54,761**	**52,070**	**46,679**
																			606,482
subtotal by financial year							1,061,480												4,532,381
Total for the whole project		9,938	9,938	9,938	313,170	297,595	420,900	279,401	284,843	255,529	429,685	405,653	415,590	442,756	381,200	393,425	434,176	422,458	387,665
					342,984		718,495			819,773									3,712,608
																		full 18 month costs	5,593,861

full implementation costs	transitional care	606,482
full implementation costs	ward 21	4,151,394
		4,757,876